

Dynamic IP Address Definition

A *dynamic IP address* is an [IP address](#) that is assigned automatically by the system to a device, account or user when it is connected to the [network](#); that is, it is assigned as needed rather than in advance.

An IP address is a unique numeric identifier for a computer or other device on a TCP/IP (transmission control protocol/Internet protocol) network. TCP/IP is the set of *protocols* (i.e., agreed-upon formats) that is used by the Internet as well as for most [LANs](#) (local area networks) and other computer networks.

Dynamic IP addresses are assigned by the [dynamic host configuration protocol](#) (DHCP), which is one of the key protocols in the TCP/IP protocol suite. Dynamic IP addresses contrast with *static IP addresses*, which are assigned manually and semi-permanently to a device, account or user. With dynamic addressing, a computer, account, etc. will typically have a different IP address every time it connects to the network. In some systems, the device's IP address can change even while it is still connected to the network.

The main advantage of dynamically assigning IP addresses is that it allows them to be reused, thereby greatly increasing the total number of computers and other devices that can use the Internet or other network. Another advantage is enhanced security for individual users because their IP address is different every time they log into the network. Still another benefit is simplification of network administration because the software keeps track of IP addresses and thus relieves the administrator from the very tedious task of having to manually assign a unique IP address to every computer as it enters the network.

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